

In the Claims

CLAIMS

Claims 1-3 (Canceled).

4. (Previously presented) The method of bonding solder balls of claim 12, wherein said placing comprises placing individual solder balls within individual holes within the frame.

5. (Previously presented) The method of bonding solder balls of claim 12, wherein said placing comprises placing majority portions of individual solder balls within individual holes within the frame.

6. (Previously presented) The method of bonding solder balls of claim 12, wherein said exposing comprises laser bonding the balls with respective ones of the individual bond pads.

7. (Previously presented) The method of bonding solder balls of claim 12, wherein said exposing comprises laser bonding the balls with their associated bond pads by fixing the position of the frame and moving a laser beam relative to the frame from ball-to-ball.

8. (Previously presented) The method of bonding solder balls of claim 12, wherein said exposing comprises laser bonding the balls with respective ones of the individual bond pads by fixing the position of a laser beam and moving the frame relative to the laser beam from ball-to-ball.

9. (Previously presented) The method of bonding solder balls of claim 12 further comprising moving the frame away from the substrate.

10. (Previously presented) The method of bonding solder balls of claim 12 further comprising after the exposing of the balls, moving the frame away from the substrate.

11. (Previously presented) The method of bonding solder balls of claim 12, wherein:

said placing comprises placing individual solder balls within individual holes within the frame; and

said exposing of the balls comprises reflowing the solder balls while the balls are within their individual holes, and further comprising after said reflowing removing the frame from around the reflowed balls.

12. (Previously presented) A method of bonding solder balls to bond pads on a substrate comprising:

placing at least portions of a plurality of solder balls within a frame and in registered alignment with individual bond pads over a substrate by dipping the substrate into a volume of balls; and

while the ball portions are within the frame, exposing the balls to bonding conditions effective to bond the balls with respective ones of the individual bond pads, wherein said placing comprises placing said ball portions on fluxless bond pad surfaces.

Claim 13 (Canceled).

14. (Previously presented) The method of claim 18, wherein the holes are individually sized to receive a majority portion of a respective individual solder ball.

Claim 15 (Canceled).

16. (Previously presented) The method of claim 18, wherein said delivering of the individual balls comprises rolling at least one ball over a frame surface until the one ball drops into an associated hole.

17. (Previously presented) The method of claim 18, wherein said delivering of the individual balls comprises rolling a plurality of balls over a frame surface until individual balls drop into respective associated individual holes.

18. (Previously presented) A method of bonding solder balls to bond pads on a substrate comprising:

providing a frame having a plurality of holes sized to receive individual solder balls;

delivering individual ones of the solder balls into the holes from over the frame by dipping the frame into a volume of the solder balls;

placing the solder balls into registered alignment, while the solder balls are in the holes, with a plurality of individual bond pads over a substrate; and

bonding the solder balls in an absence of flux with respective ones of the individual bond pads, wherein said placing of the solder balls into registered alignment comprises moving the frame to proximate the substrate before any of the solder balls are delivered into the holes.

Claim 19 (Canceled).

20. (Previously presented) The method of claim 18, wherein the bonding of the solder balls comprises laser bonding the solder balls with respective ones of the individual bond pads.

21. (Previously presented) The method of claim 18, wherein the bonding of the balls comprises laser bonding the balls with their individual associated bond pads by fixing the position of the frame and moving a laser beam relative to the frame from ball-to-ball.

22. (Previously presented) The method of claim 18, wherein the bonding of the solder balls comprises laser bonding the solder balls with respective ones of the individual bond pads by fixing the position of a laser beam and moving the frame relative to the laser beam from ball-to-ball to effectuate the bonding.

Claims 23-46 (Canceled).